

Patent claims

1. Measuring device for testing the cut quality of a sheet (4), with a transparent scanning substrate (3) comprising a stop (1) for a sheet for holding the sheet (4), a scanning device (15) with a scanning window (14) and a cover (21) for covering the sheet (4) held by the scanning substrate (3), wherein the scanning window (14) overlaps the sheet (4), forming edge surfaces (10, 11, 12, 13), and the cover (21) has different reflection properties from the sheet (4) for producing a high-contrast scanned image of the sheet (4) and of the edge surfaces (10, 11, 12, 13) between the sheet (4) and the scanning window (14).
2. Measuring device according to claim 1, characterised in that the scanning device (15) is connected by a wire (19) to a computer (20) for evaluating the scanned image.
3. Measuring device according to claim 1 or 2, characterised in that adjacent to the scanning substrate (3) is provided a sheet holder (16) for a stack of sheets (4) and a conveyor (8) for drawing in and positioning a sheet (4).
4. Measuring device according to claim 3, characterised in that the conveyor (8) is designed as a belt conveyor and the cover (21) is formed by the belt of the belt conveyor.
5. Measuring device according to claim 4, characterised in that the belt (21) is made of rubber blanket.
6. Measuring device according to claim 3, characterised in that the conveyor (8) is formed by transport rollers and the cover (21) is formed by a cover plate spaced apart from the scanning substrate (3).

7. Measuring device according to any one of claims 3 to 6, characterised in that the conveyor (8) is designed to convey stepwise over the length or width of a sheet (4) and is offset from the stop (1) in the direction of conveying in such a way that the sheet (4) can be laid at a distance from the stop (1).
8. Measuring device according to any one of claims 3 to 6, characterised in that the conveyor (8) is designed to convey stepwise over the length or width of a sheet (4) plus a distance x and the sheet (4) can be laid at a distance from the stop (1).
9. Measuring device according to any one of claims 1 to 8, characterised in that the cover (21), the sheet holder (16) and/or the conveyor (8) is held in a lid (7) mounted pivotably by means of hinges (6) adjacent to the scanning substrate (3).
10. Measuring method for testing the cut quality of a sheet (4), in which the sheet (4) is positioned on a transparent scanning substrate (3) with a stop (1), covered with a cover (21) and scanned with a scanning device (15), wherein the scanning device (15) scans in the region of a scanning window (14) which encompasses both the sheet (4) and edge surfaces (10, 11, 12, 13) surrounding the sheet (4), and differences in contrast between the sheet (4) and the edge surfaces (10, 11, 12, 13) are detected.
11. Measuring method according to claim 10, characterised in that signals corresponding to the differences in contrast are transmitted from the scanning device (15) via a wire (19) to a computer (20) and evaluated by the latter.
12. Measuring method according to claim 10 or 11, characterised in that the sheet (4) is laid in a sheet holder (16) and drawn in and positioned by a conveyor (8).
13. Measuring method according to any one of claims 10 to 12, characterised in that the scanning device (15) scans with a resolution of approximately equal to or more than 1000, preferably 1200 dpi.

14. Measuring method according to any one of claims 10 to 13, characterised in that the sheet (4) is conveyed and positioned by a belt conveyor (8) and covered by the belt (21) of the belt conveyor (8).
15. Measuring method according to any one of claims 10 to 13, characterised in that the sheet (4) is conveyed by transport rollers and covered by a cover plate spaced apart from the scanning substrate (3).
16. Measuring method according to any one of claims 10 to 15, characterised in that the conveyor (8) is offset from the stop (1) in the direction of conveying and conveys stepwise over the length or width of a sheet (4) and lays the sheet (4) at a distance from the stop (1).
17. Measuring method according to any one of claims 10 to 15, characterised in that the conveyor (8) conveys stepwise over the length or width of a sheet (4) plus a distance x and lays the sheet (4) at a distance from the stop (1).
18. Scanner with a stop (1) for the orientation of a sheet (4) to be scanned, a scanning substrate (3) and a sheet feeder (16), characterised in that the sheet feeder (16) is arranged at a distance from the stop or provided so that it can be driven in such a way that the sheet (4) can be laid on the scanning substrate (3) at a distance from the stop (1).